

THE PROPAGANDA OF THE METRIC SYSTEM

A REFUTATION *by*

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THE CONFLICT OF THE IMPERIAL AND METRIC SYSTEMS

Two systems are face to face throughout the West—the Imperial system resting on long custom and on convenience, and the Metric system on an assumption of science and on revolt against the past. It has been shown that the system which pretends to be the only scientific one, and the easiest, is a failure even in France; but there, like the republic which gave it birth, it is, under the influence of patriotism or national pride, strong for attack abroad while in a state of anarchy at home, worrying manufacturers and evaded in trade whenever police-force fails to have jurisdiction or deems it prudent not to prosecute.

The one makes men fit the measures, however inconvenient; the other makes measures to fit those who have to use them. The one attacks; the other apposes a passive resistance.

THE PROPAGANDA OF THE METRIC SYSTEM

I have read many books and many articles and letters in newspapers and scientific periodicals advocating the compulsory use of the metric system, optional amongst us since 1897, but which no trade, industry or profession will adopt, and I have almost invariably found that the writers knew the metric system imperfectly, and always that they knew their own very badly. I have found their advocacy illustrated by examples of problems in imperial weight and measure which showed defective instruction in the art of cyphering and supported by statements which were misleading and only to be charitably excused on the ground of ignorance.¹ Too often opponents of their propaganda are sneered at as wanting in scientific knowledge, business experience, and common sense.

¹ For instance, in *The Coming of the Kilogram* (H. O. Arnold-Forster) the problem 'How many times is 1 grain contained in 1 ton?' is worked out in a half-page of figures. It can be done in 15 seconds, almost mentally. A cwt. is 112 lb.; a ton is 2240 lb.; multiply by 7000. Answer: 15,680,000 grains (or times).

The propaganda of the metric system is effected, from abroad by diplomacy, and from within by—

1. Calling it 'antiquated,' a term which might be applied to Law, to Religion, to Marriage, to Property, and other ancient institutions.

2. Calling it 'irrational,' when it has that great reason which comes from custom, convenience, improvement in recent times.

3. Calling it 'unscientific,' when it joins to popular convenience the option of decimalisation, whenever that is found convenient, in addition to the alternate decimalisation already established in several series.

4. Putting forward as current certain weights, such as the Troy pound, long ago obsolete.

5. Putting forward as legal measures trade-units, such as the cask, the sack, &c., used for convenience in trade, as much in metric countries as with us.¹

6. Putting forward, as necessary, sums and calculations which a decently taught schoolboy would laugh at.

7. Ignoring all that is convenient in our system and all that is inconvenient in the metric system.

8. Ignoring the satisfaction of the people of the United States with our system, even when retaining the old wine-gallon and corn-gallon.

9. Ignoring the resistance of the French people to the metric system after a century of education in it and of police-constraint.

10. Urging us to follow the example of other countries that have adopted it, but omitting to find out whether the peoples of these countries, from civilised Germany to barbarous Haïti, use it—so far as they do use it—otherwise than under compulsion. It is the governments of these countries, not the people, that have adopted it, always in the name of Science; and the day police-pressure were taken off, the old system would return, or, at the least, the decimal series would disappear.

¹ I have even seen it put forward (in a book now before me) that our system has several bushels, indeed thirty is the number given; the ground for this assertion being that bushels of wheat, of oats, or peas, &c., are of different weights. The propagandist supposed no one would think of answering that it is the same with the Hectolitre, which contains different weights of different grains.

11. Threatening loss of foreign trade, when our trade weights and measures are so well understood by foreign manufacturers and merchants that they find no difficulty in placing their goods on our market, and are so well known that many foreign manufacturers find it impossible to use metric standards, those of England being alone accepted in most of the markets to which British manufactures are exported.

12. Calling opponents prejudiced, unprogressive, unscientific, wanting in business experience and common sense.

Such are the arguments used in the propaganda of a system which would make much of the past life of our country unintelligible, send most of its manufacturing machinery to the scrap-heap, dislocate trade for years and bring about in our country the same struggle that is still to be seen in France between the law and the people.

The claims of the metric system are exactly on the same basis as those of the Esperanto language. If the metric system were made compulsory, an energetic body of Esperantists might only have to adopt the metric plan of campaign to get their 'simple, rational, scientific and international' language made first optional, and then, when it was found that no one would use it, compulsory, while the use of the antiquated and unscientific English language would be forbidden.

What will be the result of the conflict between the two systems prevailing about equally in the greater part of the Western world? On the one side North America, the United Kingdom and its colonies in the Eastern Hemisphere; on the other side the Latin nations of both hemispheres with the principal Teutonic nations whose governments have imposed the French system on them. Russia and several other countries are awaiting the results of the conflict. But it is a siege rather than a conflict, for the attack is entirely from France; and though it has the inherent weakness of its system being a failure in the country of its origin, yet the defence has the weakness of its people being so

badly instructed in their system that they cannot repel the invasion, and have even allowed the enemy to take up a legal position in their own country. The colonial policy of England, the simple plan of respecting custom, of not interfering needlessly, is very different from that of France. British colonies that were French or Dutch keep the laws and customs that we found there, and amongst these their systems of weights and measures. If these were convenient they remained, trade bringing a gradual adoption of the English system mixed with local measures; and as these were on a system more or less common to all the Western nations before the French Revolution, weights and measures gradually harmonised. But the policy of France is distinctly aggressive; its colonies must have French laws and the metric system, and other countries also must be induced to abolish their systems and replace them by the system which a century of police-action has not succeeded in making the French people adopt, and which they evade in every possible way.

Why the propaganda of the metric system should have had any success in England appears a mystery—yet it is intelligible to anyone who has observed the contagion of opinions, even the wildest. England has been fascinated by its presentation as scientific and international. This is a scientific age, and every new thing that can be puffed as 'scientific' is likely to take with people unprepared to criticise the science. I have seen the council of no mean English city induced by the word 'scientific' to vote in favour of a petition to make the use of the metric system compulsory; the few members, not one-tenth of the whole, who dared to oppose the resolution being called unscientific, unprogressive, &c.

Repeatedly repulsed, the French siege will not cease its attacks; England, and America also, must be prepared to meet them.

Although the English-speaking peoples have a system with which they are satisfied, unfortunately few know its principles; and, in weights and measures as in other matters, an inferior article well advertised supplants an old-established and satisfactory article

that is not advertised. If the French people have not revolted long ago against the system imposed on them by the Paris bureaucracy, it is because it is thoroughly advertised as scientific, international, and as conquering the world by the superior civilisation of the French nation. They have been trained to make almost any sacrifices for the glory of France, and so long as they can evade the decimal and other inconvenient portions of the metric system they suffer this patiently for the satisfaction it gives to their patriotic feelings.

But their government must go on conquering, or they may strike against a system which brings in no more glory; as other peoples may when they see that the English-speaking peoples of the world refuse to be persuaded into accepting it.

Here is the weak point of the attack. And when the English-speaking peoples, those of the British Empire and America, are as well instructed in their good system as the peoples of the metric countries are in the bad system imposed on them (and which they evade for all the good teaching of it), the assailants will raise the siege.

We could reply: Amend your own system and make it acceptable to your own people before you ask us to put aside a system which we find convenient and which is founded on better principles than ours. Our system has been carried to all countries; it is decimal wherever decimalisation is convenient; its international unit is the Ton-register of 100 cubic feet, or 100,000 ounces, as old as the first civilisation of the world, as the civilisation which established the Meridian mile used by your seamen as by ours. We reject an artificial system founded in hatred of the past, and only kept up in its native country by police-force. In the name of decimals you want us to abolish our pound, and use a kilogramme which your own people will not use. It should be enough for you that we have given your system a denizenship by the abuse of which we have been greatly annoyed.

HOW THE METRIC SYSTEM WORKS IN FRANCE

NAPOLEON, who had witnessed the rigorous measures of the Republican government to enforce its metric system, said of it :

It violently broke up the customs and habits of the people as might have been done by some Greek or Tartar tyrant who, with uplifted rod, wills to be obeyed in all his decrees, regulated by his prejudices or his interests, without any regard for those of the conqueror. . . . It was tormenting the people for trifles.¹

But he was too wise to disturb trade again by any change in the material standards, however objectionable ; he kept these, while abolishing the unpopular decimal series.

The decree of February 12, 1812, accordingly ordered that weights and measures, while being strictly in accordance with the existing standard units, should have 'such fractions and multiples as were generally used in trade and were best suited to the needs of the people.'

A double-metre became the new Toise, divided, like the old toise, into 6 feet of 12 inches. The Aune was to be 1·2 metre.

The hectolitre and the litre were divided sexdecimally, one-fourth of the hectolitre becoming a double-Boisseau differing very slightly from the old measure of the same name.

The half-kilogramme became the Livre, divided into 16 ounces, these being divided into eighths. The Quintal was 100 livres, the millier 1000 livres, the tonneau 2000 livres.

With regard to money, the gold napoleon being 20 francs and the franc of 20 sous, divided into 4 liards or half-farthings, the system was convenient.

This practical though incomplete compromise was in force until 1837, when Louis-Philippe restored, on paper at least, the full republican system, except the measures of time. Yet the Napoleonic compromise held its ground, and indeed has lost little up to the

present day, notwithstanding a more rigorous enforcement of the decimal system under the second Empire and the third Republic.

About 1859 began the propaganda of the metric system abroad. Holland and Belgium, on which it had been imposed when those countries were seized by France in 1792 and 1795, retained it after the peace of 1814-1815 ; at least the old systems had been destroyed, and it was deemed best to retain the new one, so in 1821 it was compulsory.

The new kingdom of Italy threw away the remains of its metric inheritance from ancient Rome when in 1859 it took the French system, partly perhaps from the apparent difficulty of co-ordinating the measures of the different states, but probably as part consideration for French help against Austria.

Portugal adopted it, on paper at least, in 1863.

The worst was when, in 1868, it was adopted by the North German Confederated States, and when in 1872 it was made compulsory.

It is said that the governing powers of Germany, anxious to unify the diverse systems of its component states, took the fatal step in consequence of English official assurances that the metric system would soon be imposed on the British empire. After this disastrous surrender to international science, the governments of other countries, large and small, civilised and semi-barbarous, were easily induced by skilful diplomacy to impose the French republican measures on their peoples, heedless of the fact that all the persuasion and pressure of the French government had failed to get its own people to use the system whenever it could be evaded.

Herbert Spencer says, of the progress of the metric system :

When fifty years after its nominal establishment in France the metric system was made compulsory, it was not because those who had to measure out commodities over the counter wished to use it, but because the government commanded them to do so, and when it was adopted in Germany under the Bismarckian regime we may be sure that the opinions of shop-keepers were not asked. Similarly elsewhere, its adoption has resulted from the official will and not from the popular will.

¹ The full French text of Napoleon's opinion is given in *Against the Metric System*, by Herbert Spencer (Williams and Norgate, price 3d.).

The gradual adoption of the metric system by countries of all degrees of civilisation from Germany and Italy to Venezuela or Haïti, has not been from any desire of the people of those countries for it, except an infinitely small minority of scientists who desire that the whole world should use the system found convenient in international scientific reports, and a somewhat larger proportion of enthusiasts with high and unpractical cosmopolitan ideals. Many also acquiesce from the same motive which induces people to buy a well-advertised and puffed article instead of one to which they had been accustomed and had found satisfactory. They undergo the contagion to which the crowd-mind is so subject. In England a few genuine enthusiasts, and many more who have caught the scientific and cosmopolitan craze, take to the metric system as they take to learning Esperanto, and so long as they have not to use the one in business or the other in conversation, their enthusiasm lasts, especially when it affords opportunities for showing themselves friends of science and progress. But when the contagion spreads so wide that it threatens to revolutionise the habits and customs of a nation and its whole manufactures and trade, the danger is most serious.

The favour which the metric system has found amongst a small proportion of English people is largely due to their ignorance of their own system, an ignorance very excusable when there exists no official statement of our system, or even of its standards. The people are left to the information afforded very badly in school-books and scarcely better in almanacks. So our system is left without defence against the attacks made on it by well-meaning persons who do not know it, and by the never-ceasing action of the French government.¹

¹ Aided greatly by the Alliance Française, an association formed, under government patronage, 'to extend the political and moral power of France . . . and make pacific conquests abroad by its superior civilisation.' Every member of it abroad is bound to promote this cause.